

What is claimed is:

1. An optical path control device comprising an optical waveguide having a clad layer of P-type (or N-type) formed on a substrate and a core layer of N-type (or P-type) stacked on the clad layer, and electrodes formed on both sides of a part of the optical waveguide, wherein a voltage is applied between the electrodes to change the refractive index at the part of the optical waveguide where the electrode is formed.

2. An optical path control device comprising an optical waveguide having a clad layer of P-type (or N-type) formed on a substrate and a core layer of N-type (or P-type) stacked on the clad layer, plural electrodes formed on both sides of the optical waveguide, plural incidence units provided at one end of the substrate, and plural emission units provided at the other end, wherein a voltage applied to an arbitrary electrode of the plural electrodes is controlled to change the refractive index at the part of the optical waveguide where the electrode is formed, so that light emitted from an arbitrary incidence unit and incident on the optical waveguide becomes incident on an arbitrary emission unit.

3. The optical path control device as claimed in claim 1 or 2, wherein the upper electrode is formed in a triangular shape.

4. The optical path control device as claimed in claim 1 or 2, wherein the position of incident light incident on the

optical waveguide or the spot diameter of the incident light is controlled, thereby controlling the optical path of light.

5. The optical path control device as claimed in claim 2, wherein an algorithm function for realizing optimum control is used in order to selectively emit light from an arbitrary incidence unit to an arbitrary emission unit.